VM1260S

High Precision Vertical Machining Center

Designed for high precision machining, Advanced technological features and construction provide superior performance in any type of manufacturing environment.

SPECIFICATIONS:

• CAPACITY

X axis travel	1200mm
Y axis travel	600mm
Z axis travel	600mm

• GUIDE WAY

X guide way span	370mm / 45 roller
Y guide way span	900mm / 45 roller
Z guide way span	420mm / 45 roller

• BALL SCREW

X ball screw	40x12mm
Y ball screw	40x12mm
Z ball screw	40x12mm
Ball screw class	C3

• DRIVING MOTOR

X motor	1.8Kw/11NM
Y motor	3.0Kw/20NM
Z motor	3.0Kw/20NM

• MOTION

X axis rapid travel	36m/min
Y axis rapid travel	36m/min
Z axis rapid travel	30m/min
Cutting speed	10000
Positioning accuracy (Full stroke) XYZ	0.008mm
Repeatability XYZ	0.005mm

• WORK TABLE

Table length	1200mm
Tale width	600mm
Table surface to floor:	950mm
Table Max loading weight	800kg
T slot	5X18mmX100

• MAIN SPINDLE

Spindle nose to table	140-740mm
Spindle center to Z axis	650mm
Spindle type	BT40

Spindle speed	8000rpm
Spindle motor	11/15kw
Spindle torque	85/110Nm

- **AUTOMATIC TOOL MAGAZINE**

Number of tools	24
Tool shank	BT40
Max tool Dia/length /weight	dia80mm/300mm/8kg
Tools change time	1.8sec

- **GENERAL**

Foot print (LxWxH):	4500x2650x3140mm
Machine weight :	7200kg

- **UTILITY:**

Power required	35 kVA/55A
Voltage required – Fanuc	220 Volts /60Hz / 3 Phase
Compressed air pressure	0.6~0.8 Mpa
Compressed air consumption	280 L/min

- **HYDRAULIC SYSTEM:**

Tank capacity	60L (232.5 gal)
Pump motor power	1.5Kw (3Hp)
Discharge pressure	5MPa

- **LUBRICATION SYSTEM:**

Tank capacity	4L
Pump motor power	0.035Kw
Discharge pressure	2.5MPa
Distributor type	Metering

- **FLOOD COOLANT SYSTEM:**

Tank capacity	350L
Pump motor power	1.1kw
Filtration	20 mesh
Max. Pressure	0.48MPa
Max. Flow rate	66 L/min
Pump type	Immersion type

- **PACKING SIZE**

Packing type	steel plate 2-1 300cmx230cmx250cm 2-2 500cm×220cm×170cm

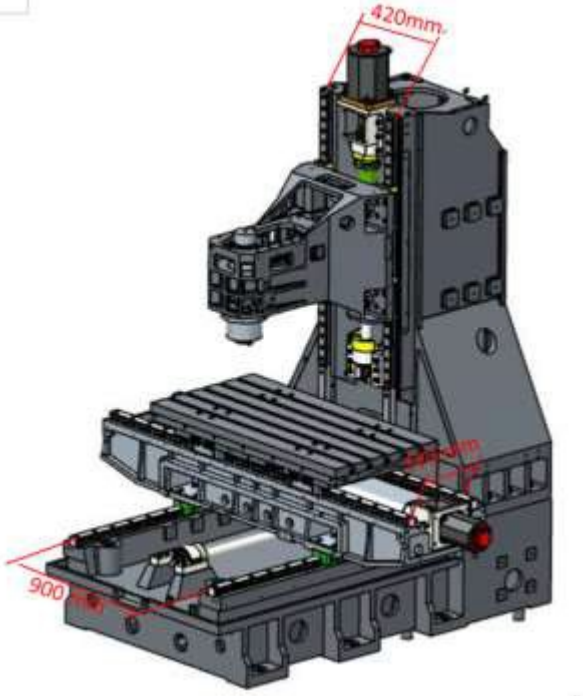
➢ Standard configuration

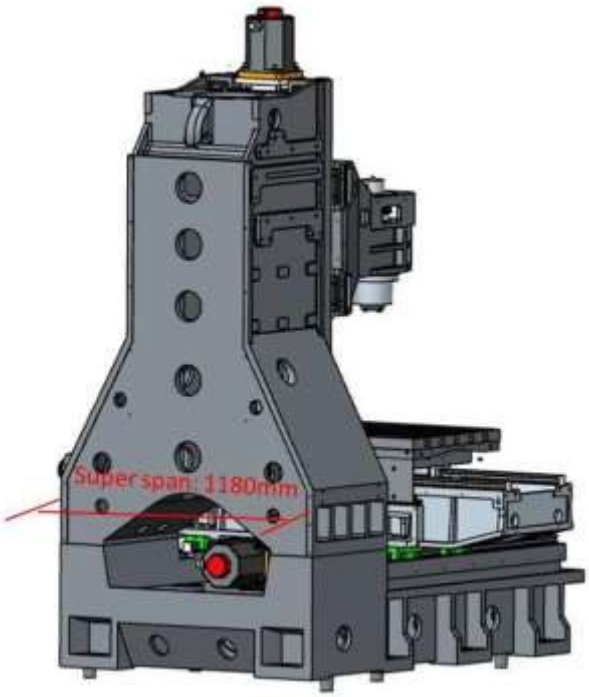
- FANUC 0i MF 5 Plus CNC system, 2MB system memory, 15/11KW spindle motor
- 3 axis linear guide way
- 8000rpm belt drive spindle, BT40
- 24 tools arm type tools magazine
- Auto chip conveyer & one chip chart
- Machine body washing system
- Auto oil lubrication system
- Tri-color light
- Air gun
- Lighting lamp
- Full enclosure splash guard
- Telescopic covers (3 axis)

Construction:

- **BED, COLUMN AND SADDLE:**

The bed is a rigid, one piece casting made from fine grain Meehanite cast iron with heavy ribbing to help prevent vibration and deformation during heavy cutting. Extra wide spacing of the roller guide ways provide for excellent support of the saddle, regardless of the load distribution on the table. The table is fully supported by the saddle in all positions with no overhang. The rigid box type column casting is heavily ribbed to help prevent twisting or distortion as well as helping to dampen vibration during high speed or heavy machining.

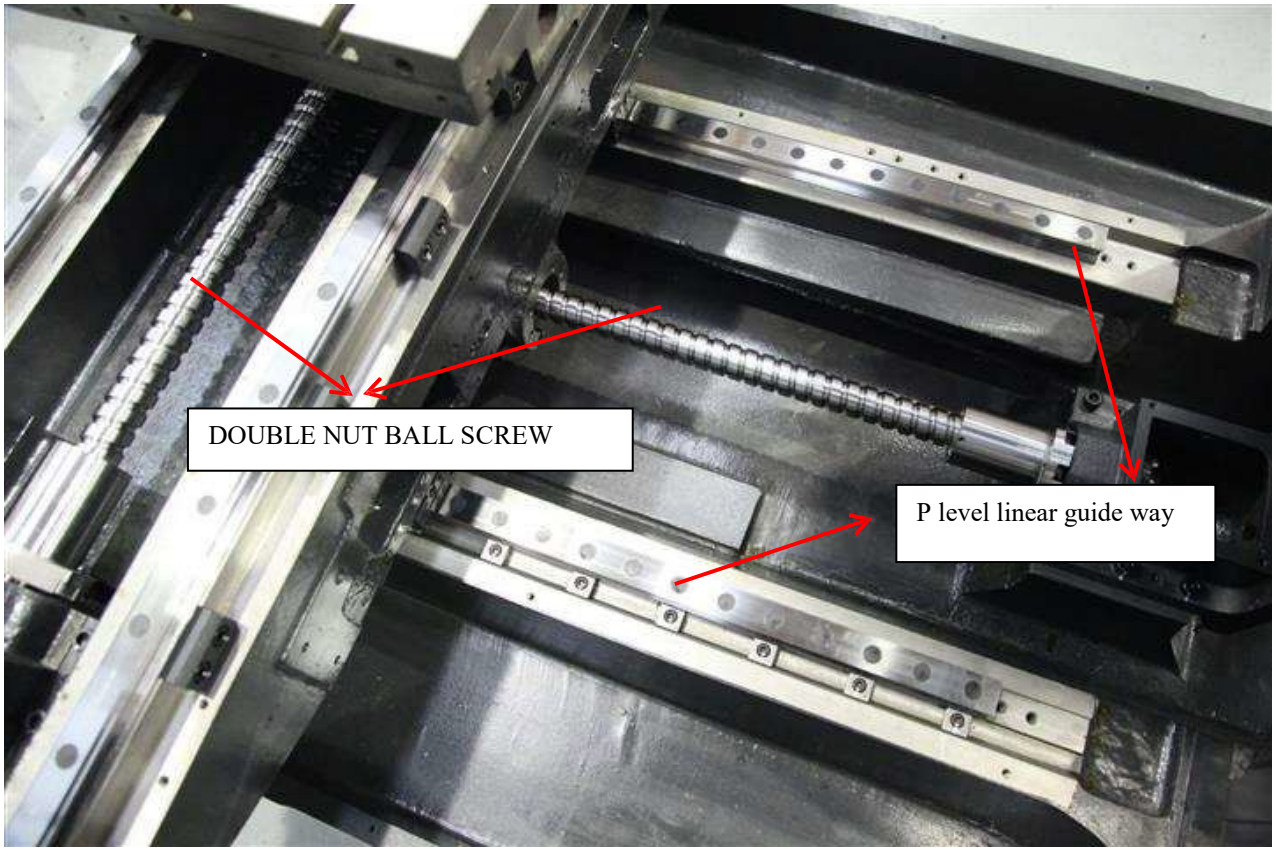




Inverse-Y columnI

it has an Inverse-Y column structure, large rectangular section design, unique internal reinforcement structure, better deflection resistance, torsion resistance, and ultra-high rigidity, all connected with a strong bed to meet the rigidity requirements of strong cutting.

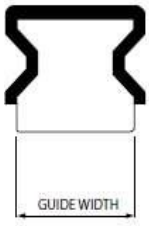
All axes are of Linear Guide type for higher stiffness, accuracy, and surface finish than more common Ball Bearing Guide types. They are both heavy duty (X - 35 mm \ 1.378"Y - 45 mm \ 1.772", Z - 45 mm \ 1.772") and widely spaced (X - 384 mm \ 15.118", Y - 760 mm \ 29.921", Z - 410 mm \ 16.141").



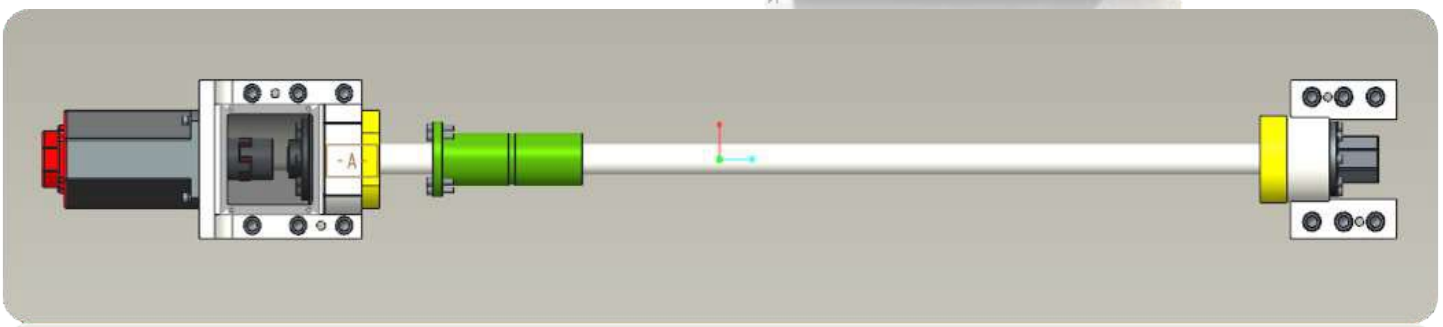
C3 V300=0.008mm

C3 level high speed silence ball screw with heat inhibiting function feature.
Screw diameter* pitch:
40*16/40*12/40*10,
Double nut ball screw.

C3 level

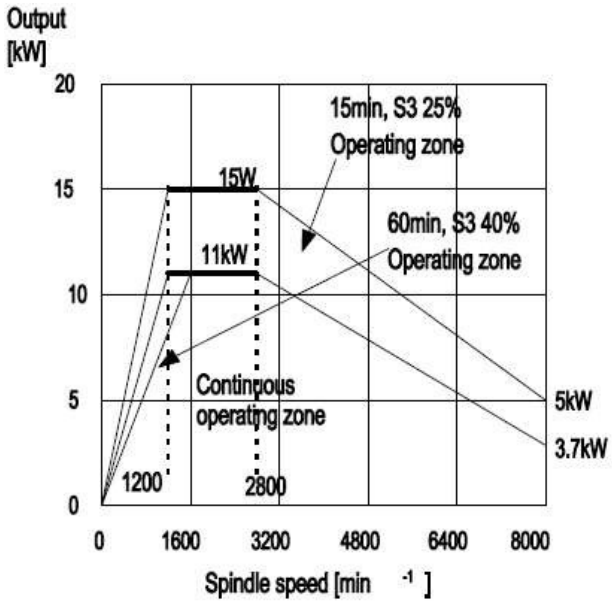


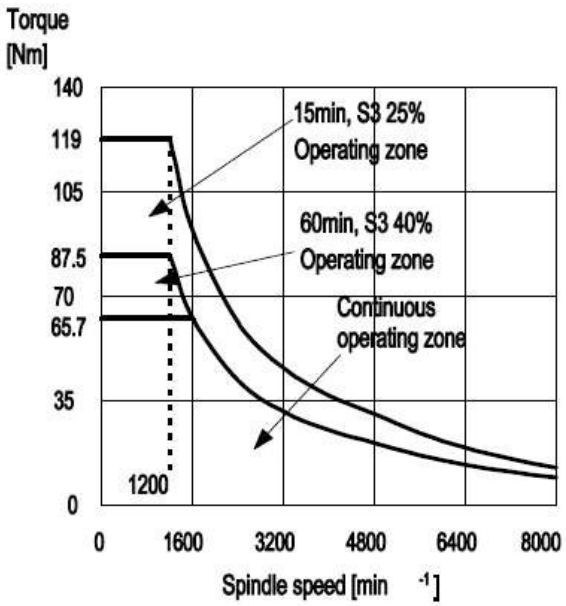
The ball screw adopts the pre-load process, which effectively reduces the back lash in the ball screw and helps reduce the heat transfer and friction. This improves the accuracy and strengthens the rigidity and heat deformation resistance.



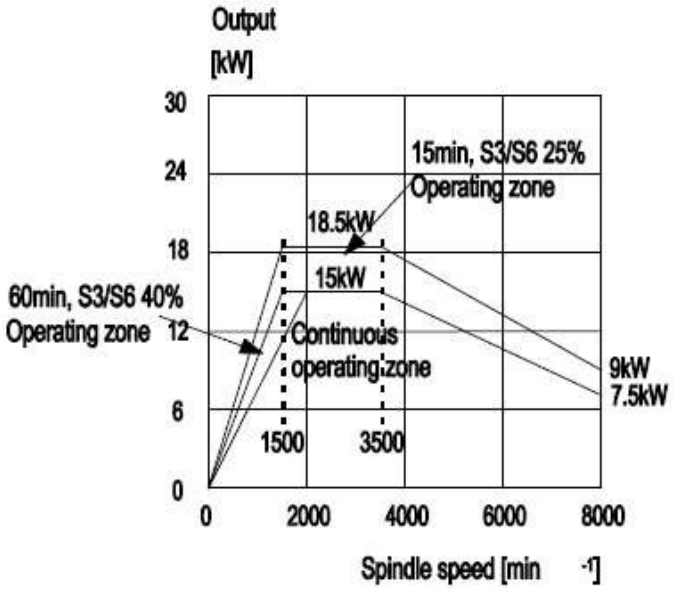
- **SPINDLE and spindle Motor**

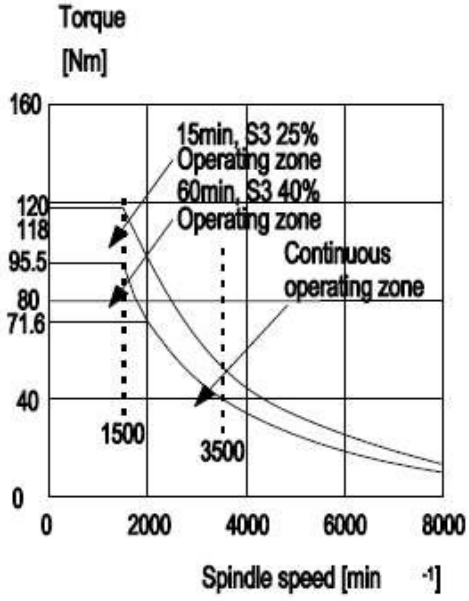
The spindle is a true cartridge type unit supported by high precision ceramic ball bearings that offers minimized noise, vibration and thermal growth. The powerful 8000 rpm, 15/11 Kw .can extend to 18.5/15KW .



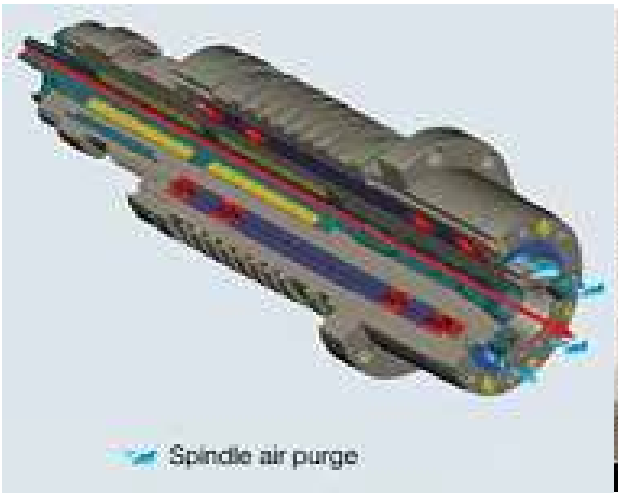


Spindle motor 15/18.5kw





- Spindle air blow and air curtain design constantly protect spindle .
  2 coolant tube and 1 air tube are standard on the machine .

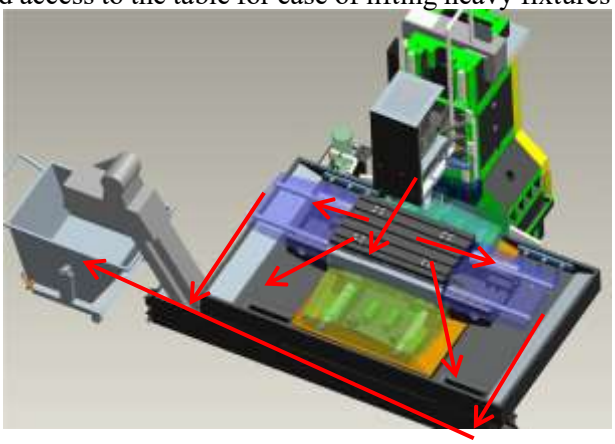


- **FULLY ENCLOSED GUARDING:**

The fully enclosed guarding is made of heavy gauge sheet metal designed to contain both chips and coolant. The dual, large sliding doors open to 1,260 mm (49") and provide unrestricted overhead access to the table for ease of lifting heavy fixtures or work pieces.

- **CHIP DISPOSAL AND FLOOD COOLANT SYSTEM:**

Automatic chain type conveyor with high pressure water gun to clean chips and reduce machine temperature rising. This System reduce much more heat distortion and increase machine accuracy life.



- **LUBRICATION:**

Automatic oil pump provides lubrication to the guide ways and ball screws which precisely controls the volume of oil to these critical components. A low-level alarm reminds operator before machine stop. The grease type lubrication is an optional, which is thought by some to be more environmentally friendly.

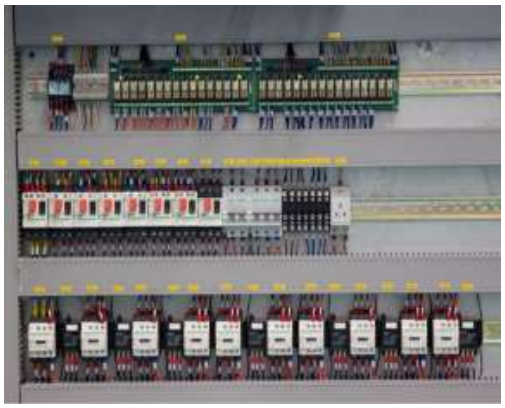
- **TOOL MAGAZINE**

24 tools BT40 arm type tools magazine, rigidity to holder heavy tools, cam system to change tools. Stable quality.The machine has undergone thousands of tool change tests before leaving the factory to ensure smooth and reliable tool change. 48 hours trouble free test to guarantee stoppage rate below 0.5%. Manufacturer design '*one panel recover function" to solve* 97% tools magazine common problems,

- **Other details**

Well-organized and easy maintenance of electrical cabinet

Organized pneumatic system and lubrication system, 4th axis connection for easy repairing and maintenance.



OPTIONS DETAILS:

- **Big Plus Spindle System by Big Daishowa LTD:**

The Big Plus spindle system and tooling surpasses all other spindle concepts due to simultaneous taper and flange contact between the machine spindle and tool holder as well as complete interchangeability with existing machines and tools. Upon mounting the tool holder into the machine spindle, contact occurs prior to clamping. Due to the retention force, the taper of the tool holder expands the machine spindle in its elastic range. The tool is pulled further in until the tool flange touches the spindle face for maximum rigidity.

- **20 bar (230 psi) THROUGH SPINDLE COOLANT SYSTEM (TSC):**

A dedicated positive displacement pump delivers the coolant directly to the tool tip. The immediate benefit is more aggressive feeds and speeds can be maintained throughout the cutting process. There is also no need to stop and adjust coolant nozzles which increases both in cut time and operator safety. Protecting the spindle and the vital rotary union from contamination is a Cyclone filter with a 10 micron filter element that does not require the use of bags helping to reduce maintenance cost. The 380 liter (100 gallon) tank stores an ample supply of coolant and is isolated from the machine bed to help prevent heat transfer.

Coolant through spindle is optional on this machine . 20 bar and 30 bar are popular options . high pressure 50 bar and 70 bar are possible also .

- **Renishaw work piece measure devices and Renishaw Tool -setter**

- Linear scales

Rotary table

- Spindle oil cooler (included)

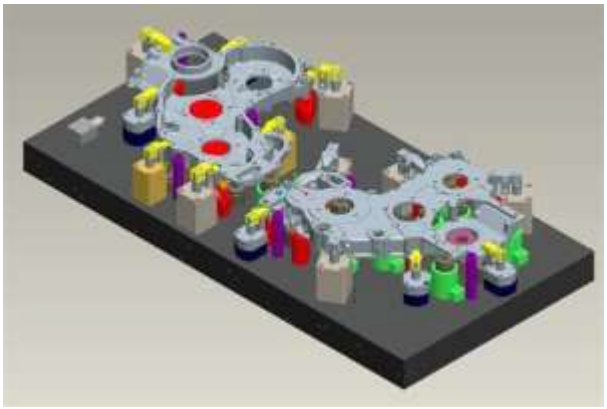
Spindle oil cooler

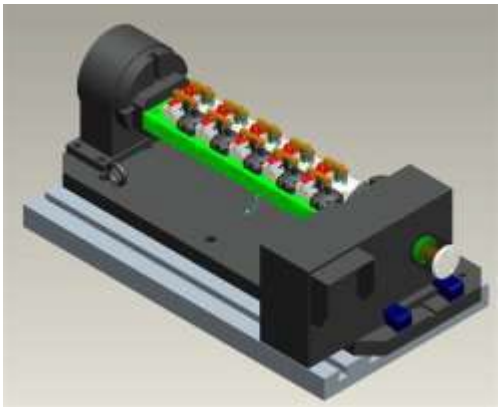
Angle milling head :

Angle head

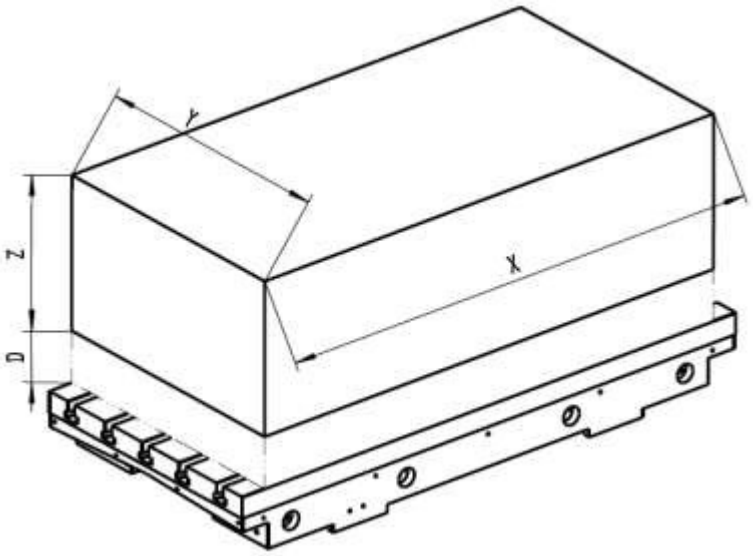
- **SPECIAL FIXTURE DESIGN**

Professional team to provide turnkey solution, many experience on fixture design for different product.



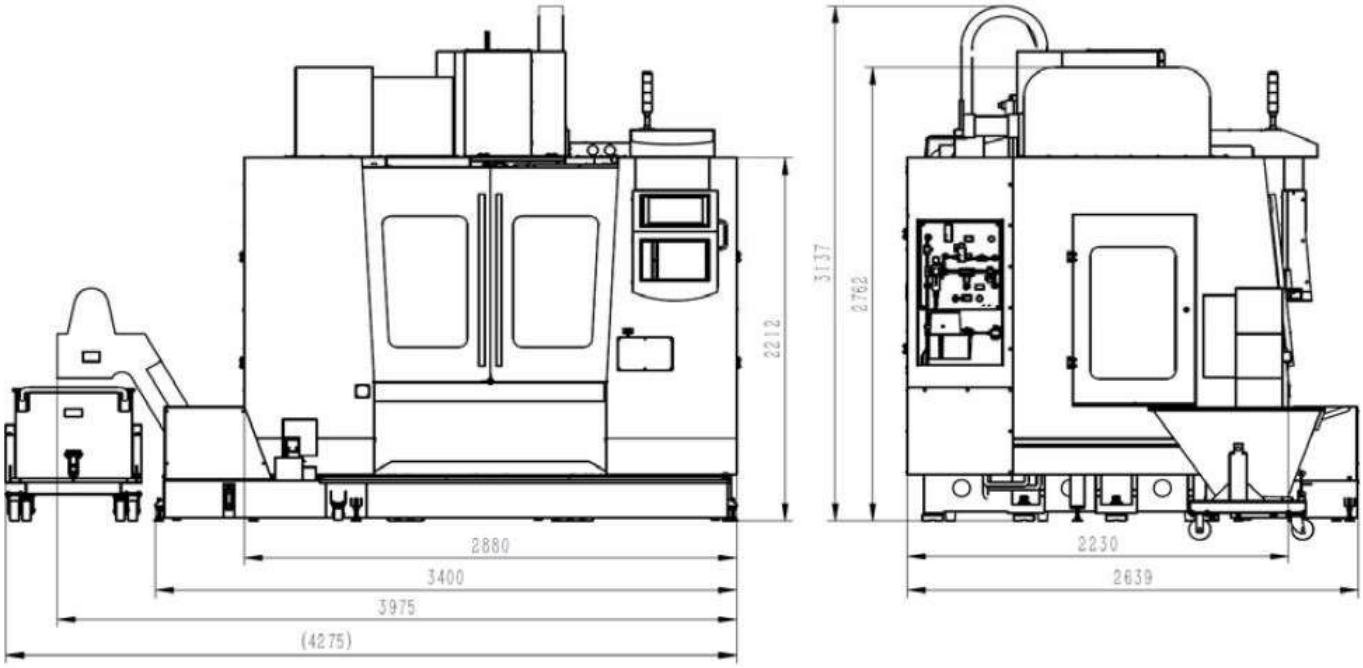


WORK RANGE:

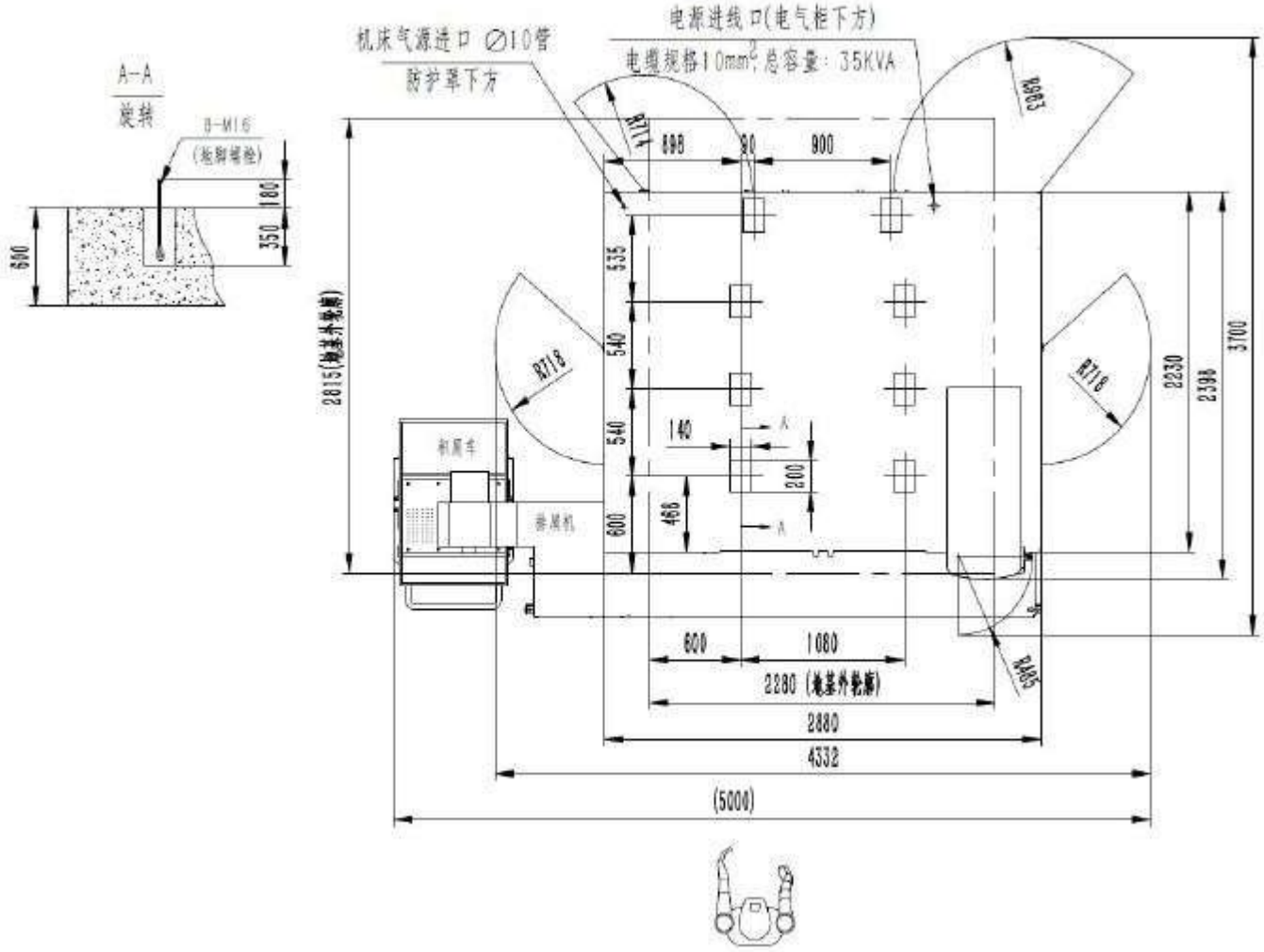


	X	Y	Z	D
VM1260	1200	600	600	140

LAYOUT



FOUNDATION DRAWING



Packing size：

1. LxWxH： 3000x2300x2540mm
Gross weight and net weight : 7500/7000 kg

2. LxWxH： 4200x1600x1700mm
Gross weight and net weight : 622/500 kg

- **SYSTEM CONTROLLER :**

FANUC

● Standard ○ Optional X N/A

No.	Item		Spec.	0I-MF Plus	
				Type 1	Type 5
1	Controlled axis	Controlled axes		5	5
2		Additional controlled axes		7	6
3		Least command increment	0.001 mm / 0.0001"	●	●
4		Least input increment	0.001 mm / 0.0001"	●	●
5		Interpolation type pitch error compensation		●	●
6	Interpolation & Feed Function	2nd reference point return	G30	●	●
7		3rd / 4th reference return		●	●
8		Inverse time feed		●	X
9		Cylinderical interpolation	G07.1	●	○
10		Bell-type acceleration/deceleration before look ahead interpolation		●	●
11		Automatic corner override	G62	●	●
12		Automatic corner deceleration		●	●
13		Manual handle feed	Max. 3unit	●	●
14		Handle interruption		●	●
15		Manual handle retrace		●	●
16		Nano smoothing	AI contour control II is required.	○	X
17		AICC I	40 BLOCK	X	●
18		AICC II	200 BLOCK	●	X
19		AICC II(Preview block number increase)	400 BLOCK(Special hardware and AI contour control II)	○	X
20	Spindle & M code Function	M- code function		●	●
21		Retraction for rigid tapping		●	●
22		Rigid tapping	G84, G74	●	●
23	Tool Function	Number of tool offsets	400	400 ea	400 ea
24		Tool nose radius compensation	G40, G41, G42	●	●
25		Tool length compensation	G43, G44, G49	●	●
26		Tool life management		●	●
27		Tool offset	G45 - G48	●	●
28	Programming & Editing Function	Custom macro		●	●
29		Macro executor		●	●
30		Extended part program editing		●	●

31		Part program storage	2MB(5120m)	●	●
32		Inch/metric conversion	G20 / G21	●	●
33		Number of Registerable programs	400 ea	400 ea	400 ea
34		Number of Registerable programs	1000 ea	○	○
35		Optional block skip	9 BLOCK	●	○
36		Optional stop	M01	●	●
37		Program file name	32 characters	●	●
38		Sequence number	N 8-digit	N8 digit	N8 digit
39		Playback function		●	●
40		Addition of workpiece coordinate system	G54.1 P1 - 48 (48 pairs)	48 pairs	48 pairs
41		Addition of workpiece coordinate system	G54.1 P1 - 300 (300 pairs)	○	○
42	OTHER FUNCTIONS (Operation, setting & Display, etc)	Embeded Ethernet		●	●
43		Graphic display	Tool path drawing	●	●
44		Loadmeter display		●	●
45		Memory card interface		●	●
46		USB memory interface	Only Data Read & Write	●	●
47		Operation history display		●	●
48		DNC operation with memory card		●	●
49		Optional angle chamfering / corner R		●	●
50		Run hour and part number display		●	●
51		High speed skip function		●	●
52		Polar coordinate command	G15 / G16	●	●
53		Programmable mirror image	G50.1 / G51.1	●	●
54		Scaling	G50, G51	●	●
55		Single direction positioning	G60	●	●
56		Pattern data input		●	○
57		Jerk control	AI contour control II is required.	○	X
58		Fast Data server with1 GB PCMCIA card		○	○
59		Fast Ethernet		○	○
60		3-dimensional coordinate conversion		○	X
61		Figure copying	G72.1, G72.2	○	○
62		Machining time stamp function		○	○
63		Manual Guide I with 10.4" Color TFT		○	○
64		Dynamic graphic display (with 10.4" screen)		●	●